

Nr 7.

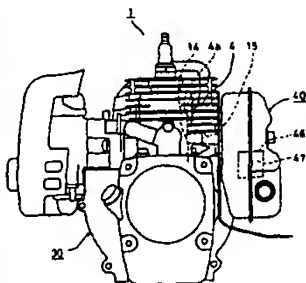


PCT

1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

〔統葉有〕

(54) 発明の名称: 触媒付層状掃気2サイクルエンジン



(57) Abstract: A stratified scavenging two-cycle engine with catalyst capable of meeting, using catalyst, such a requirement that THC exhaust rate must be 54 g/kw · h or less, wherein an air feed volume ratio R of an air feed volume (qa) flowing through an air feed flow passage (24) to a mixed air feed volume (Qf) flowing through a mixed air feed flow passage (20) is within the range of $0.7 \leq R \leq 1.4$ during a suction stroke where a crank chamber (8) is decompressed to a negative pressure and an oxidation catalyst (47) is disposed midway in an exhaust passage on the downstream side of an exhaust hole (14).

(57) 要約:

触媒を用いてT H C 排出率が54 [g / kW · h] 以下という条件を満足できる触媒付層状掃気2サイクルエンジンを提供する。このために、クランク室(8)が負圧となる吸入行程の間に、混合気供給流路(20)を流れる混合気給気量(Qf)に対する空気供給流路(24)を流れる空気給気量(qa)の給気量比Rが、 $0.7 \leq R \leq 1.4$ の範囲内である層状掃気2サイクルエンジンにおいて、排気孔(14)の下流の排気通路の途中に、酸化触媒(47)を配設する。

WO 01/25604 A1

請求の範囲

1. ピストン(2)と、前記ピストン(2)が上下方向に摺動自在に収納されるシリンダ(4)と、前記シリンダ(4)の下端部に接続されて、内部にクランク室(8)を有するクランクケース(6)と、前記シリンダ(4)の側壁(4a)に形成される排気孔(14)及び掃気孔(16)と、前記掃気孔(16)と前記クランク室(8)とを接続する掃気流路(22)と、前記掃気流路(22)に接続されるとともに、逆止弁(26)を経て空気を供給する空気供給流路(24)と、燃料供給手段(31)から燃料が供給された混合気を前記クランク室(8)に供給する混合気供給流路(20)とを備え、前記クランク室(8)が負圧となる吸入行程の間に、前記混合気供給流路(20)を流れる混合気給気量(Q_f)に対する前記空気供給流路(24)を流れる空気給気量(q_a)の給気量比 R が、 $0.7 \leq R \leq 1.4$ の範囲内である層状掃気2サイクルエンジンにおいて、

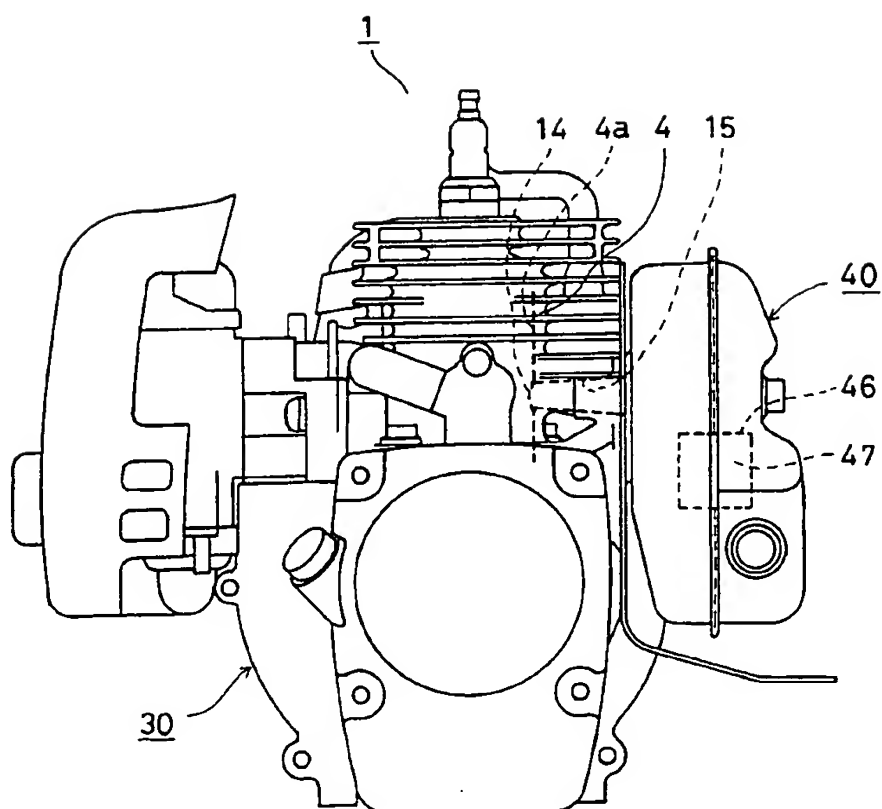
前記排気孔(14)の下流の排気通路の途中に、酸化触媒(47)を配設することを特徴とする触媒付層状掃気2サイクルエンジン。

2. ピストン(2)と、前記ピストン(2)が上下方向に摺動自在に収納されるシリンダ(4)と、前記シリンダ(4)の下端部に接続されて、内部にクランク室(8)を有するクランクケース(6)と、前記シリンダ(4)の側壁(4a)に形成される排気孔(14)及び掃気孔(16)と、前記掃気孔(16)と前記クランク室(8)とを接続する掃気流路(22)と、前記掃気流路(22)に接続されるとともに、逆止弁(26)を経て空気を供給する空気供給流路(24)と、燃料供給手段(31)から燃料が供給された混合気を前記クランク室(8)に供給する混合気供給流路(20)とを備え、前記掃気流路(22)を、前記シリンダ(4)、又は前記シリンダ(4)及び前記クランクケース(6)に形成するとともに、前記形成された掃気流路(22)と前記空気供給流路(24)の逆止弁(26)とにより形成される掃気流路容積(V_s)が、全負荷定格出力回転数時でかつ前記クランク室(8)が負圧となる吸入行程の間に前記空気供給流路(24)を流れる空気給気量(q_a)に対し、70%以上である層状掃気2サイクルエンジンにおいて、

前記排気孔(14)の下流の排気通路の途中に、酸化触媒(47)を配設することを特徴とする触媒付層状掃気2サイクルエンジン。

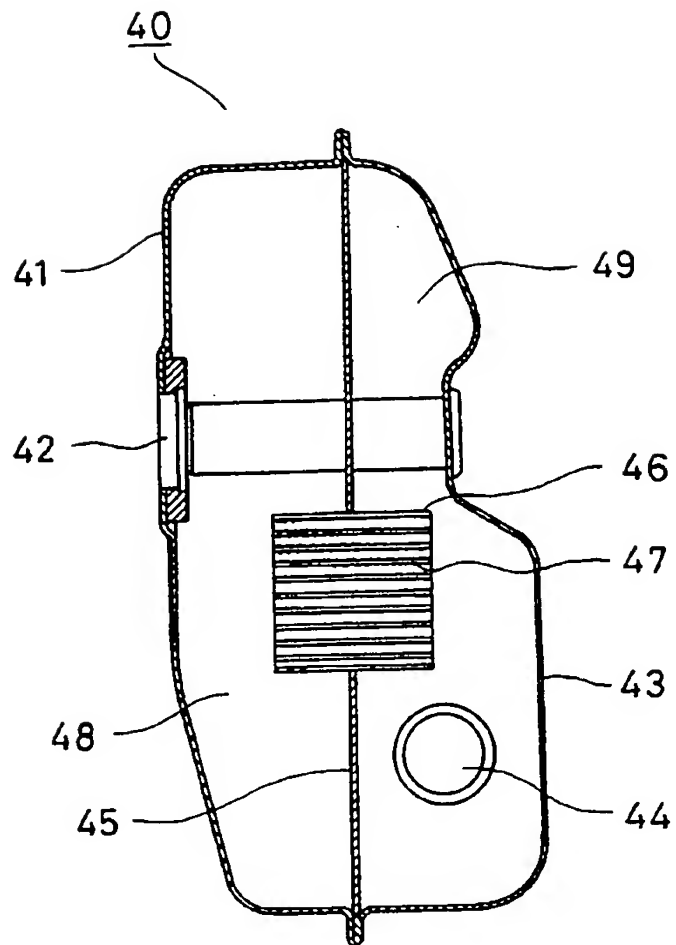
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FIG. 1



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FIG. 3



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FIG. 4

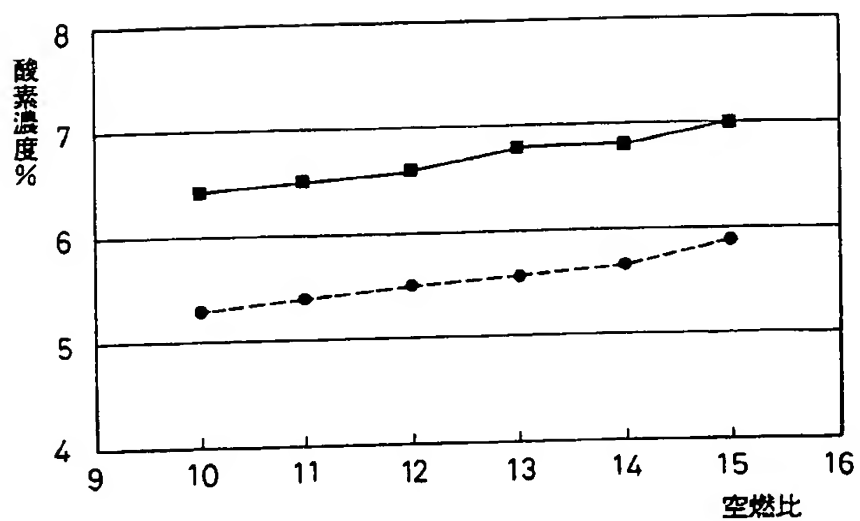
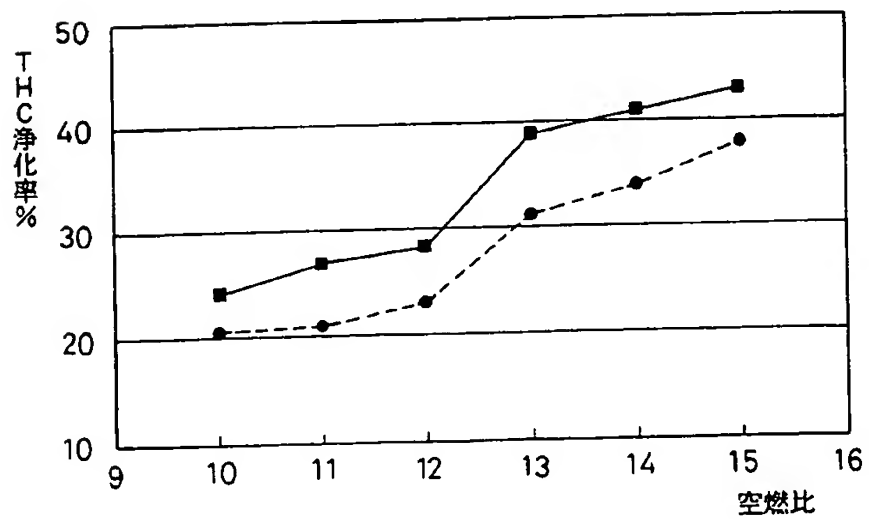
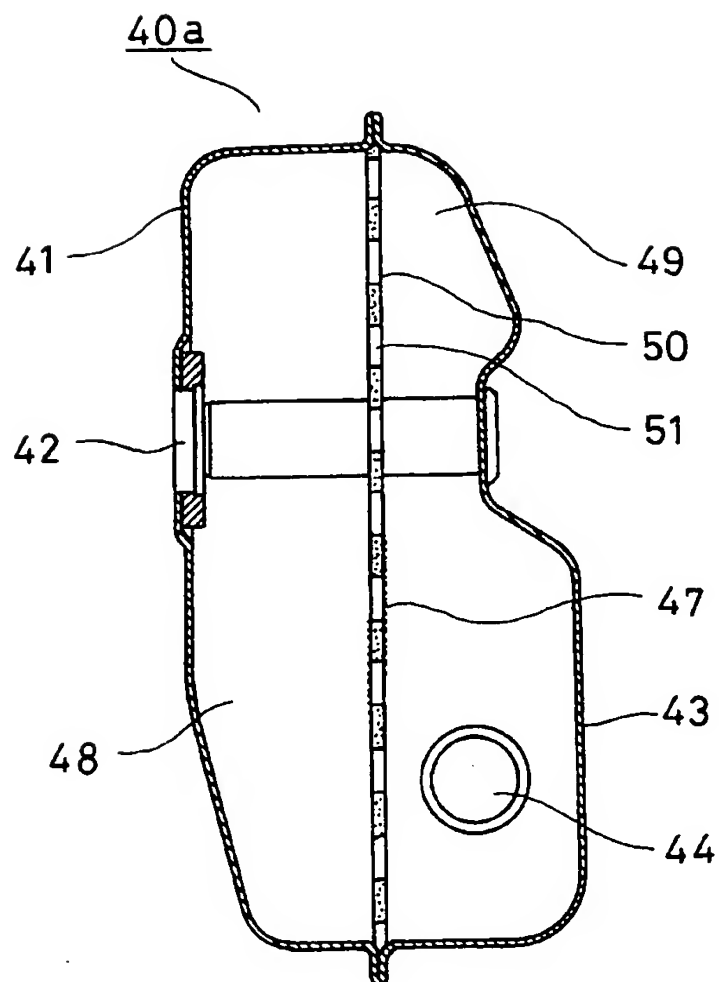


FIG. 5



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FIG. 6



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP00/06879

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl.⁷ F01N3/28, F02B25/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl.⁷ F01N3/28, F02B25/22

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1926-1996	Jitsuyo Shinan Toroku Koho	1996-2000
Kokai Jitsuyo Shinan Koho	1971-2000	Toroku Jitsuyo Shinan Koho	1994-2000

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP, 11-107761, A (Komatsu Zenoah Co., Ltd., et al.), 20 April, 1999 (20.04.99), page 1, Column 1, lines 2 to 36 & WO, 9918338, A1 & EP, 971110, A1 & AU, 9891868, A	1-2
Y	JP, 3-233127, A (Yamaha Motor Co., Ltd.), 17 October, 1991 (17.10.91), page 2, upper left column, lines 3 to 13 (Family: none)	1-2
Y	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No.32711/1985 (Laid-open No.149716/1986) (Kabushiki Kaisha Clean Engine), 16 September, 1986 (16.09.86), page 3, line 18 to page 4, line 15 (Family: none)	1-2
A	JP, 60-108530, A (Iwao MAEYAMA), 14 June, 1985 (14.06.85), page 3, upper left column, line 17 to upper right column, line 6 (Family: none)	1-2

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance

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Date of the actual completion of the international search
19 December, 2000 (19.12.00)Date of mailing of the international search report
26 December, 2000 (26.12.00)Name and mailing address of the ISA/
Japanese Patent Office

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP00/06879

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE, 19520944, A1 (Seebeck, Norbert), 11 January, 1996 (11.01.96), Fig.1-4 (Family: none)	1-2